

Serial Number: 09/910,082A**ENTERED**

Changed a file from non-ASCII to ASCII

Changed the margins in cases where the sequence text was "wrapped" down to the next line.

Edited a format error in the Current Application Data section, specifically:  
\_\_\_\_\_

Edited the Current Application Data section with the actual current number. The number inputted by the applicant was  the prior application data; or  other \_\_\_\_\_.

Added the mandatory heading and subheadings for "Current Application Data".

Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

Changed the spelling of a mandatory field (the headings or subheadings), specifically:  
\_\_\_\_\_

Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:  
\_\_\_\_\_

Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:  
\_\_\_\_\_

Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

Inserted colons after headings/subheadings. Headings edited included:  
\_\_\_\_\_

Deleted extra, invalid, headings used by an applicant, specifically:  
\_\_\_\_\_

Deleted:  non-ASCII "garbage" at the beginning/end of files;  secretary initials/filename at end of file;  
 page numbers throughout text;  other invalid text, such as \_\_\_\_\_.

Inserted mandatory headings, specifically: \_\_\_\_\_

Corrected an obvious error in the response, specifically:  
\_\_\_\_\_

Edited identifiers where upper case is used but lower case is required, or vice versa.

Corrected an error in the Number of Sequences field, specifically:  
\_\_\_\_\_

A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_

Other: Seqs 54, 134, 161, 185 - moved 223> response up one line  
\_\_\_\_\_

\_\_\_\_\_

OIPE

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/910,082A

DATE: 01/15/2002  
 TIME: 20:22:54

Input Set : A:\PTO.AMC.txt  
 Output Set: N:\CRF3\01152002\I910082A.raw

3 <110> APPLICANT: University of Utah Research Foundation  
 4 Cognetix, Inc.  
 5 Olivera, Baldomero M.  
 6 McIntosh, J. Michael  
 7 Watkins, Maren  
 8 Garrett, James E.  
 9 Shon, Ki-Joon  
 10 Jacobsen, Richard  
 11 Jones, Robert M.  
 12 Cartier, G. Edward  
 14 <120> TITLE OF INVENTION: Omega-Conopeptides  
 16 <130> FILE REFERENCE: 2314-241  
 C--> 18 <140> CURRENT APPLICATION NUMBER: US/09/910,082A  
 C--> 18 <141> CURRENT FILING DATE: 2001-07-23  
 18 <150> PRIOR APPLICATION NUMBER: US 60/219,616  
 19 <151> PRIOR FILING DATE: 2000-07-21  
 21 <150> PRIOR APPLICATION NUMBER: US 60/265,888  
 22 <151> PRIOR FILING DATE: 2001-02-05  
 24 <160> NUMBER OF SEQ ID NOS: 413  
 26 <170> SOFTWARE: PatentIn version 3.0  
 28 <210> SEQ ID NO: 1  
 29 <211> LENGTH: 318  
 30 <212> TYPE: DNA  
 31 <213> ORGANISM: Unknown  
 33 <220> FEATURE:  
 34 <223> OTHER INFORMATION: unknown Conus species  
 36 <400> SEQUENCE: 1  
 37 ggatccatga aactgacgtg catggtgatc gtcggcgtgc tgctcctgac ggcctgtcaa 60  
 39 ctcatcacag ctgatgactc cagaggtacg cagaagcattc atgcccgttag gtcgaccacc 120  
 41 aatttctcca cgttgactcg tcgctgcctt tctccggat cacgatgtca taagacaatg 180  
 43 cgttaactgct gcacttcatcg ctcttcataac aaagggaaat gtcggcctcg aaaatgaacc 240  
 45 actcatcacc tactcctctg gaggcctcag aggaattaca ttgaaataaa agccgcatta 300  
 47 caaaaaaaaaaaaaaaa 318  
 50 <210> SEQ ID NO: 2  
 51 <211> LENGTH: 76  
 52 <212> TYPE: PRT  
 53 <213> ORGANISM: Unknown  
 55 <220> FEATURE:  
 56 <223> OTHER INFORMATION: unknown Conus species  
 58 <400> SEQUENCE: 2  
 60 Met Lys Leu Thr Cys Met Val Ile Val Ala Val Leu Leu Leu Thr Ala  
 61 1 5 10 15  
 63 Cys Gln Leu Ile Thr Ala Asp Asp Ser Arg Gly Thr Gln Lys His His  
 64 20 25 30  
 66 Ala Leu Arg Ser Thr Thr Asn Phe Ser Thr Leu Thr Arg Arg Cys Leu  
 67 35 40 45  
 69 Ser Pro Gly Ser Arg Cys His Lys Thr Met Arg Asn Cys Cys Thr Ser

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70 50 55 60  
 72 Cys Ser Ser Tyr Lys Gly Lys Cys Arg Pro Arg Lys  
 73 65 70 75  
 75 <210> SEQ ID NO: 3  
 76 <211> LENGTH: 30  
 77 <212> TYPE: PRT  
 78 <213> ORGANISM: Unknown  
 80 <220> FEATURE:  
 81 <223> OTHER INFORMATION: unknown Conus species  
 83 <220> FEATURE:  
 84 <221> NAME/KEY: PEPTIDE  
 85 <222> LOCATION: (1)..(30)  
 86 <223> OTHER INFORMATION: Xaa at residue 4 and 28 is Pro or Hyp; Xaa at residue 22 is Tyr,  
 87 125I-Tyr, mono-iodo-Tyr, di-iodo-Tyr, O-sulpho-Tyr or O-phospho-T  
 88 yr  
 91 <400> SEQUENCE: 3  
 92 > 93 Cys Leu Ser Xaa Gly Ser Arg Cys His Lys Thr Met Arg Asn Cys Cys  
 94 1 5 10 15  
 95 > 96 Thr Ser Cys Ser Ser Xaa Lys Gly Lys Cys Arg Xaa Arg Lys  
 97 20 25 30  
 99 <210> SEQ ID NO: 4  
 100 <211> LENGTH: 283  
 101 <212> TYPE: DNA  
 102 <213> ORGANISM: Unknown  
 104 <220> FEATURE:  
 105 <223> OTHER INFORMATION: unknown Conus species  
 107 <400> SEQUENCE: 4  
 108 ggatccatga aactgacgtg cgtggtgatc gtcggcgtgc tgctcctgac ggtctgtcaa 60  
 110 ctcatcacag ctgatgactc cagaggtacg cagaagcatc atgcccgtgg 60  
 112 aatttctcca cgtcgactcg tcgctgcaaa cctcccgaa gaaaatgtct gaatagaaaag 180  
 114 aatgaatgct gcagcaagtt ttgcaatgaa cacctacata tgtgtggata aatggctaaa 240  
 116 aactgaataa aagccgcatt gcaaaaaaaaaaaaaaaaaaaa 283  
 119 <210> SEQ ID NO: 5  
 120 <211> LENGTH: 74  
 121 <212> TYPE: PRT  
 122 <213> ORGANISM: Unknown  
 124 <220> FEATURE:  
 125 <223> OTHER INFORMATION: unknown Conus species  
 127 <400> SEQUENCE: 5  
 128 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Val  
 130 1 5 10 15  
 132 Cys Gln Leu Ile Thr Ala Asp Asp Ser Arg Gly Thr Gln Lys His His  
 133 20 25 30  
 135 Ala Leu Arg Ser Thr Thr Asn Phe Ser Thr Ser Thr Arg Arg Cys Lys  
 136 35 40 45  
 138 Pro Pro Gly Arg Lys Cys Leu Asn Arg Lys Asn Glu Cys Cys Ser Lys  
 139 50 55 60  
 141 Phe Cys Asn Glu His Leu His Met Cys Gly  
 142 65 70

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Input Set : A:\PTO.AMC.txt

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144 <210> SEQ ID NO: 6  
 145 <211> LENGTH: 27  
 146 <212> TYPE: PRT  
 147 <213> ORGANISM: Unknown  
 149 <220> FEATURE:  
 150 <223> OTHER INFORMATION: unknown Conus species  
 152 <220> FEATURE:  
 153 <221> NAME/KEY: PEPTIDE  
 154 <222> LOCATION: (1)..(27)  
 155 <223> OTHER INFORMATION: Xaa at residue 14 and 22 is Glu or gamma-carboxy Glu; Xaa at

resi

156 due 3 and 4 is Pro or Hyp

159 &lt;400&gt; SEQUENCE: 6

161 Cys Lys Xaa Xaa Gly Arg Lys Cys Leu Asn Arg Lys Asn Xaa Cys Cys

162 1 5 10 15

W--&gt; 164 Ser Lys Phe Cys Asn Xaa His Leu His Met Cys

165 20 25

167 &lt;210&gt; SEQ ID NO: 7

168 &lt;211&gt; LENGTH: 275

169 &lt;212&gt; TYPE: DNA

170 &lt;213&gt; ORGANISM: Unknown

172 &lt;220&gt; FEATURE:

173 &lt;223&gt; OTHER INFORMATION: unknown Conus species

175 &lt;400&gt; SEQUENCE: 7

176 ggatccatga aactgacgtg cgtggtgatc gtcggcgtgc tgctcctgac ggcctgtcaa 60

178 ctcgtcacag ctgatggctc cagaggtatg cagaagcatt atgcctgag gtcgaccacc 120

180 aatctctcca tatcgtctcg ctgcaaacct cccagaagaa aatgtctgaa gattaaggat 180

182 aaatgctgca acttttgc aa tacacaccta aatatgtgtg gataaatggc taaaaactga 240

184 ataaaagccg cattgcaaaa aaaaaaaaaaaa aaaaa 275

187 &lt;210&gt; SEQ ID NO: 8

188 &lt;211&gt; LENGTH: 72

189 &lt;212&gt; TYPE: PRT

190 &lt;213&gt; ORGANISM: Unknown

192 &lt;220&gt; FEATURE:

193 &lt;223&gt; OTHER INFORMATION: unknown Conus species

195 &lt;400&gt; SEQUENCE: 8

197 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Thr Ala

198 1 5 10 15

200 Cys Gln Leu Val Thr Ala Asp Gly Ser Arg Gly Met Gln Lys His Tyr

201 20 25 30

203 Ala Leu Arg Ser Thr Thr Asn Leu Ser Ile Ser Ser Arg Cys Lys Pro

204 35 40 45

206 Pro Arg Arg Lys Cys Leu Lys Ile Lys Asp Lys Cys Cys Asn Phe Cys

207 50 55 60

209 Asn Thr His Leu Asn Met Cys Gly

210 65 70

212 &lt;210&gt; SEQ ID NO: 9

213 &lt;211&gt; LENGTH: 26

214 &lt;212&gt; TYPE: PRT

215 &lt;213&gt; ORGANISM: Unknown

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Input Set : A:\PTO.AMC.txt  
 Output Set: N:\CRF3\01152002\I910082A.raw

217 <220> FEATURE:  
 218 <223> OTHER INFORMATION: unknown Conus species  
 220 <220> FEATURE:  
 221 <221> NAME/KEY: PEPTIDE  
 222 <222> LOCATION: (1)..(26)  
 223 <223> OTHER INFORMATION: Xaa at residue 3 and 4 is Pro or Hyp  
 226 <400> SEQUENCE: 9  
 228 Cys Lys Xaa Xaa Arg Arg Lys Cys Leu Lys Ile Lys Asp Lys Cys Cys  
 229 1 5 10 15  
 231 Asn Phe Cys Asn Thr His Leu Asn Met Cys  
 232 20 25  
 234 <210> SEQ ID NO: 10  
 235 <211> LENGTH: 377  
 236 <212> TYPE: DNA  
 237 <213> ORGANISM: Unknown  
 239 <220> FEATURE:  
 240 <223> OTHER INFORMATION: unknown Conus species  
 242 <400> SEQUENCE: 10  
 243 ggatccatga aactgacgtg tgtggtgatc gtcggcgtgc tgctcctgat ggcctgtcaa 60  
 245 ctcgtcacag ctgatggctc cagaggtatg cacaagcatt atgcccctgag gtcgaccacc 120  
 247 aaactctcca tgcgactcg ctgcgcaggt ccagaacaa tttgtcctaa tagggtatgc 180  
 249 tgcggttatt gcagtaaaag aacacatcta tgtcattcgc gaaactggctg atcttccccc 240  
 251 ttctgcgctc catccttttc tgcctgagtc ctccatacct gagaatggtc atgaaccact 300  
 253 caacacctac tcctctggag gcgcctcagaa gagctacatt gaaataaaag ccgcattaca 360  
 255 aaaaaaaaaaaaaaaa 377  
 258 <210> SEQ ID NO: 11  
 259 <211> LENGTH: 74  
 260 <212> TYPE: PRT  
 261 <213> ORGANISM: Unknown  
 263 <220> FEATURE:  
 264 <223> OTHER INFORMATION: unknown Conus species  
 266 <400> SEQUENCE: 11  
 268 Met Lys Leu Thr Cys Val Val Ile Val Ala Val Leu Leu Leu Met Ala  
 269 1 5 10 15  
 271 Cys Gln Leu Val Thr Ala Asp Gly Ser Arg Gly Met His Lys His Tyr  
 272 20 25 30  
 274 Ala Leu Arg Ser Thr Thr Lys Leu Ser Met Ser Thr Arg Cys Ala Gly  
 275 35 40 45  
 277 Pro Gly Thr Ile Cys Pro Asn Arg Val Cys Cys Gly Tyr Cys Ser Lys  
 278 50 55 60  
 280 Arg Thr His Leu Cys His Ser Arg Thr Gly  
 281 65 70  
 283 <210> SEQ ID NO: 12  
 284 <211> LENGTH: 28  
 285 <212> TYPE: PRT  
 286 <213> ORGANISM: Unknown  
 288 <220> FEATURE:  
 289 <223> OTHER INFORMATION: unknown Conus species  
 291 <220> FEATURE:

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Input Set : A:\PTO.AMC.txt  
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292 <221> NAME/KEY: PEPTIDE  
293 <222> LOCATION: (1)..(28)  
294 <223> OTHER INFORMATION: Xaa at residue 4 and 9 is Pro or Hyp; Xaa at residue 16 is  
Tyr, 1  
295 25I-Tyr, mono-iodo-Tyr, di-iodo-Tyr, O-sulpho-Tyr or O-phospho-Ty  
296 r  
299 <400> SEQUENCE: 12  
301 Cys Ala Gly Xaa Gly Thr Ile Cys Xaa Asn Arg Val Cys Cys Gly Xaa  
302 1 5 10 15  
304 Cys Ser Lys Arg Thr His Leu Cys His Ser Arg Thr  
305 20 25  
307 <210> SEQ ID NO: 13  
308 <211> LENGTH: 323  
309 <212> TYPE: DNA  
310 <213> ORGANISM: Conus arenatus  
312 <400> SEQUENCE: 13  
313 ggatccatga aactgacgtg catggtgatc atccgggtgc tggccctgac ggcctgtcaa 60  
315 ctcattacag gtgagccagaa ggaccatgtc ctggggatct tggccatgtc attttactgtc 120  
317 actaggcagt gctcggtctaa cgggtggatct tggccatgtc attttactgtc 180  
319 tattgcaata aagatccag tggatgtgtc gcaacctcat acccggtgatc 240  
321 ccctcaatac cctctccctct ggaggcgttca gagggactgc attgaaataa aaccgcattg 300  
323 caataaaaaaa aaaaaaaaaaaa aaa 323  
326 <210> SEQ ID NO: 14  
327 <211> LENGTH: 73  
328 <212> TYPE: PRT  
329 <213> ORGANISM: Conus arenatus  
331 <400> SEQUENCE: 14  
333 Met Lys Leu Thr Cys Met Val Ile Ile Ala Val Leu Phe Leu Thr Ala  
334 1 5 10 15  
336 Cys Gln Leu Ile Thr Gly Glu Gln Lys Asp His Ala Leu Arg Ser Thr  
337 20 25 30  
339 Asp Lys Asn Ser Lys Leu Thr Arg Gln Cys Ser Ala Asn Gly Gly Ser  
340 35 40 45  
342 Cys Thr Arg His Phe His Cys Cys Ser Leu Tyr Cys Asn Lys Asp Ser  
343 50 55 60  
345 Ser Val Cys Val Ala Thr Ser Tyr Pro  
346 65 70  
348 <210> SEQ ID NO: 15  
349 <211> LENGTH: 33  
350 <212> TYPE: PRT  
351 <213> ORGANISM: Conus arenatus  
353 <220> FEATURE:  
354 <221> NAME/KEY: PEPTIDE  
355 <222> LOCATION: (1)..(33)  
356 <223> OTHER INFORMATION: Xaa at residue 1 is Gln or pyro-Glu; Xaa at residue 33 is  
Pro or  
357 Hyp; Xaa at residue 19 and 32 is Tyr, 125I-Tyr, mono-iodo-Tyr, di  
358 -iodo-Tyr, O-sulpho-Tyr or O-phospho-Tyr  
361 <400> SEQUENCE: 15  
363 Xaa Cys Ser Ala Asn Gly Gly Ser Cys Thr Arg His Phe His Cys Cys  
364 1 5 10 15

Use of n and/or Xaa has been detected in the Sequence Listing.  
→ Review the Sequence Listing to insure a corresponding  
explanation is presented in the <220> to <223> fields of  
each sequence using n or Xaa.

VERIFICATION SUMMARY  
PATENT APPLICATION: US/09/910,082A

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Input Set : A:\PTO.AMC.txt  
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L:18 M:270 C: Current Application Number differs, Replaced Current Application No  
L:18 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:93 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:96 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3  
L:161 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6  
L:228 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:301 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12  
L:363 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15  
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15  
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15  
L:428 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18  
L:431 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18  
L:490 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:493 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:496 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21  
L:555 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24  
L:558 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24  
L:618 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27  
L:646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28  
L:686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30  
L:748 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33  
L:751 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33  
L:810 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36  
L:813 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36  
L:873 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39  
L:937 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42  
L:940 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42  
L:1000 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45  
L:1064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:1067 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:1128 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51  
L:1131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51  
L:1134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51  
L:1195 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:1198 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:1259 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57  
L:1262 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:57  
L:1323 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60  
L:1326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:60  
L:1387 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63  
L:1390 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63  
L:1393 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63  
L:1453 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:66  
L:1515 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69  
L:1518 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69  
L:1521 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:69  
L:1551 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:71

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L:1599 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:74  
L:1647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77  
L:1694 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:80  
L:1743 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:83